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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/606,677	06/26/2003	Glenn Mahony	9400-7	5379
39072 7590 10/04/2007 MYERS BIGEL SIBLEY & SAJOVEC, P.A. P.O. BOX 37428 RALEIGH, NC 27627			EXAMINER LI, SHI K	
			ART UNIT 2613	PAPER NUMBER
			MAIL DATE 10/04/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/606,677

Applicant(s)

MAHONY ET AL.

Examiner

Shi K. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2007 and 03 August 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14, 15-20 and 24-35 is/are pending in the application.
- 4a) Of the above claim(s) 12-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 15-20 and 24-35 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of Species II, claims 1-11, 15-20 and 24-35 in the reply filed on 3 August 2007 is acknowledged. Claims 12-14 are withdrawn as being directed to non-elected invention. The election requirement is made final.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. Claim 18 recites the limitation "the OLT" in line 1 of the claim. There is insufficient antecedent basis for this limitation in the claim.

5. Claim 19 recites the limitation "the OLT" in lines 1-2 of the claim. There is insufficient antecedent basis for this limitation in the claim.

6. Claim 20 recites the limitation "the OLT" in line 6 of the claim. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

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international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4, 8, 20, 24-27, and 35 rejected under 35 U.S.C. 102(e) as being anticipated by Feldman et al. (U.S. Patent 6,577,414 B1).

Regarding claims 1, 20, 24 and 35, Feldman teaches in FIG. 1 a passive optical network. Feldman teaches in FIG. 6 a configuration for FTTH without interrupting legacy services where an optical splitter is coupled to home OEC (equivalent to ONT of instant claim) and a legacy transceiver (equivalent to ONU of instant claim) coupled to the same subscriber premises.

Regarding claims 2 and 25, the splitter directly subtends the ONU.

Regarding claims 3 and 26, the splitter and the ONU are co-located.

Regarding claims 4 and 27, the box 615 is placed in the curb. Feldman teaches in col. 6, line 67-col. 8, line 1 that curb site equipment is either hangs from a telephone pole or sits in a pedestal.

Regarding claim 8, it is understood from FIG. 1 and FIG. 6 that there are a plurality of ONUs and a plurality of ONTs.

Regarding claim 15, Feldman et al. teaches in FIG. 6 a plurality of second optical fibers and fiber drop to home OEC.

#### ***Claim Rejections - 35 USC § 103***

9. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

10. Claims 5-7, 18, 28 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman et al. (U.S. Patent 6,577,414 B1) in view of Fitz (U.S. Patent 6,236,789 B1) and Iglesia (R. Iglesia, "Service-Affecting Optoelectronic Failures in FITL Systems: Downtime, Repair

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Actions, and Maintenance Expenses”, IEEE Journal on Selected Areas in Communications, Vol. 12, No. 2, February 1994).

Feldman et al. has been discussed above in regard to claims 1-4, 8, 20, 24-27, and 35. Feldman et al. teaches in col. 7, lines 1-2 that the OEC is powered by the network. It is understood that it means the power source is at a remote location and power is fed to the OEC via a distribution network. To further strengthen the rejection, Examiner cites Fitz for a composite copper/fiber cable for distributing power as illustrated in FIG. 2 of Fitz. The Examiner also cites Iglesia for teaching the terminologies OLT and HDT. They are equivalent as illustrated in Table II of Iglesia. One of ordinary skill in the art would have been motivated to combine the teaching of Fitz and Iglesia with the passive optical network of Feldman et al. because generating power in a centralized location and distributing power via a distribution network is much cheaper, safer and more efficient than having power source at each ONU. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use copper/fiber cable for distributing power to ONUs from either a OLT or HDT, as taught by Fitz and Iglesia, in the passive optical network of Feldman et al. because generating power in a centralized location and distributing power via a distribution network is much cheaper, safer and more efficient than having power source at each ONU.

11. Claims 9-11, 19, 29-32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman et al. (U.S. Patent 6,577,414 B1)

Feldman et al. has been discussed above in regard to claims 1-4, 8, 20, 24-27, and 35. Feldman et al. teaches in FIG. 6 that there is another splitter between the first splitter and the

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OEC. However, it is well known in the art that the two splitters of FIG. 6 of Feldman et al. can be combined into one large splitter and directly connected to the OEC.

12. Claims 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman et al. (U.S. Patent 6,577,414 B1) in view of Dyke et al. (U.S. Patent 6,427,042 B1), Fitz (U.S. Patent 6,236,789 B1) and Singer (U.S. Patent 5,606,555).

Feldman et al. has been discussed above in regard to claims 1-4, 8, 20, 24-27, and 35. The difference between Feldman et al. and the claimed invention is that Feldman et al. does not teach a composite cable and tree architecture. Fitz teaches in FIG. 2 composite copper/fiber cable for distributing power and data signal. Dyke et al. teaches in FIG. 1 street distribution comprising poles and drop fibers. Finally, Singer teaches in FIG. 1 tree architecture where a first splitter connects directly to ONU1 and also connects directly to a second splitter where more ONUs are connected. One of ordinary skill in the art would have been motivated to combine the teaching of Fitz, Dyke et al. and Singer with the modified passive optical network of Feldman et al. because generating power in a centralized location and distributing power via a distribution network is much cheaper, safer and more efficient than having power source at each ONU. Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use composite cable for distributing power and data signal via a distribution network, as taught by Fitz, Dyke et al. and Singer, in the passive optical network of Feldman et al. because generating power in a centralized location and distributing power via a distribution network is much cheaper, safer and more efficient than having power source at each ONU.

***Response to Arguments***

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13. Applicant's arguments with respect to claims 1-11, 15-19 and 24-35 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shi K. Li whose telephone number is 571 272-3031. The examiner can normally be reached on Monday-Friday (7:30 a.m. - 4:30 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan can be reached on 571 272-3022. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

skl  
26 September 2007



**Shi K. Li  
Patent Examiner**